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Service Data Interface Unit (SDIU) Description

The SDIU is a sophisticated state of the art microprocessor controlled special to type test equipment ,designed to reduce equipment down time and increase service efficiency by helping the field or hospital service engineer maintain & repair any of the range of Linet Active Pressure relieving mattresses.

The SDIU has a strong ABS equipment casing that is designed to survive in the engineers tool kit and workshop or field repair environments.

The Infra-red data link provides easy , reliable instant connection to any of the Linet range of SCUs without the need to open the Pump or additional external cables.

The SDIU can be used to simply check the Production details of the SCU or review and update the Fault and service data thus providing the service engineer with;

- A live service history of the unit without the need to contact head office for service records.
- An instant log of any faults that the unit has experienced and when they occurred.

The powerful Repair, Display & Mattress test modes allow ,at the touch of a button ,all product functions and SCU components to be tested without opening the SCU case. Also greatly reducing the time taken for fault diagnosis and eliminating time wasted trying to repair by component substitution.

If required for your service organisation the Data Exchange facility SCU repair & test information can be stored and downloaded to a PC on return to base thus reducing the need for and time taken writing or typing in service details.

The SDIU's own firmware can easily be updated to take enable it to be used with any new Linet models or updates to current model SCUs this allowing the SDIU to keep pace with the product range and being a service engineers tool for life.

General Operation

If using the SDIU for the first time or after changing the batteries the SDIU data will need to be set up ,see relevant section of this manual.

The SDIU I.R link is very reliable and can operate a long distances from the SCU, it is however recommended to hold the SDIU approximately level with the SCU I.R window and at no more than 0.5Mtr from the SCU so that the SCU display panel can be seen and its mode of operation monitored.

If communication to the SCU is lost for any reason , the SDIU will always try to automatically recover the link. If communication cannot be automatically re-established you will need to return to the Link menu and press F2.

If there is no SCU in range or the SCU has no mains power connected or is not turned on, the display will show,



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and only the SDIU set up mode will be available.





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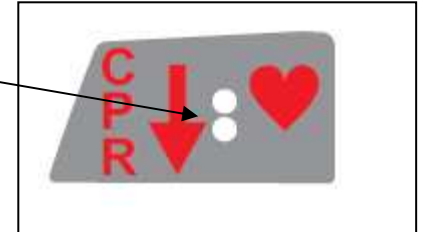
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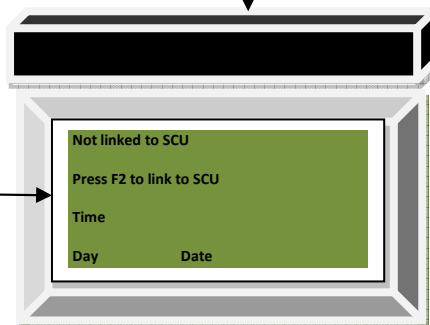
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SDIU Layout & Keypad functions

SDIU Infra-Red (I.R) window. Must be pointed at SCU I.R Window CPR label above



LCD display with back light. Displays SDIU & SCU status& data.



Green power light.

Illuminated when SDIU is live , flashing when SDIU in power save mode

F1(Go) button

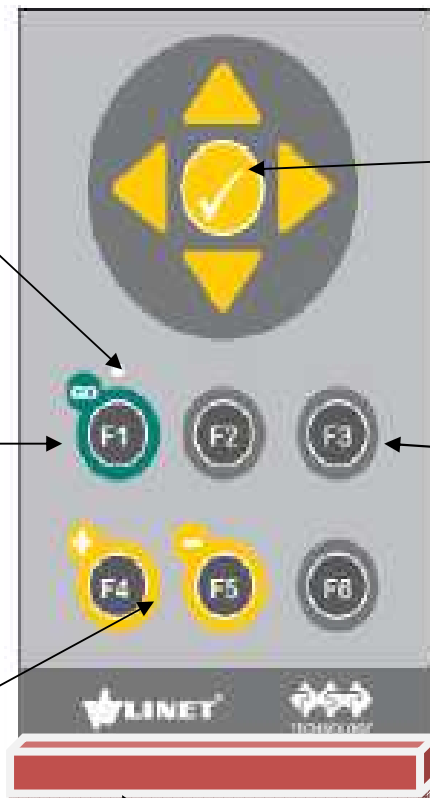
Press & hold for 3 seconds to turn SDIU on or off or to exit power save mode

Menu Navigation pad. Use up↑ ,Down↓, left ←& right →keys to move through on screen menus & ok ✓ to accept changes

Soft function keys F1-F6 key functions defined in on screen menus

F4 + & F5 - keys used to select required characters by moving up| (F4) or down(F5) through the available number, character or symbol range

USB computer connection for data exchange





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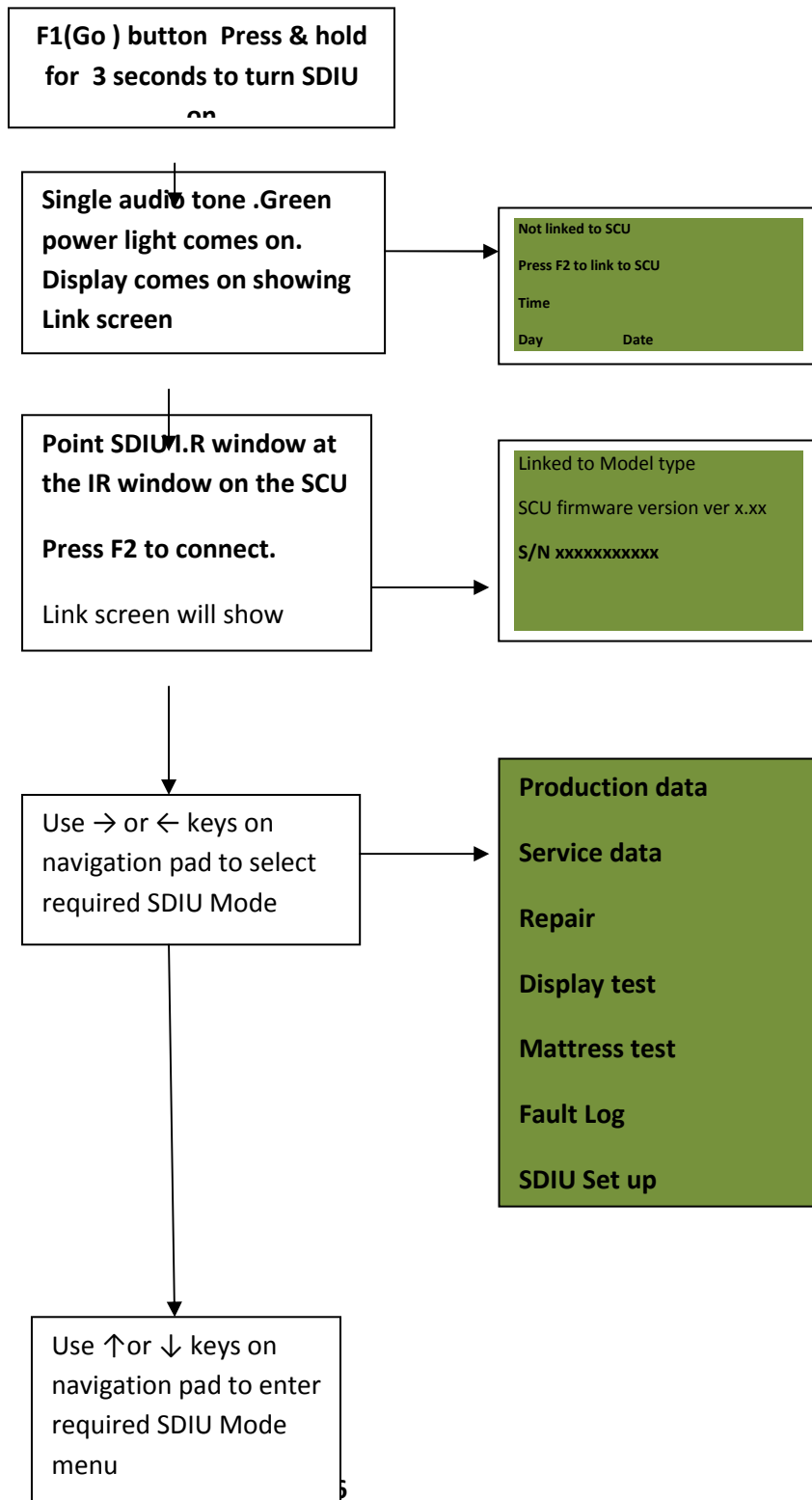
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Turn on & link to SCU





Power Save Mode

If no SDIU control button is used for 3 minutes the SDIU will automatically go into power save mode to help conserve battery power.

In this mode the Green power LED will flash to indicate that Power save mode is active and the mains display will show no data.

Provided that it is not moved out of range of the SCU the I.R link will be maintained and the selected SDIU operating mode will continue to function.

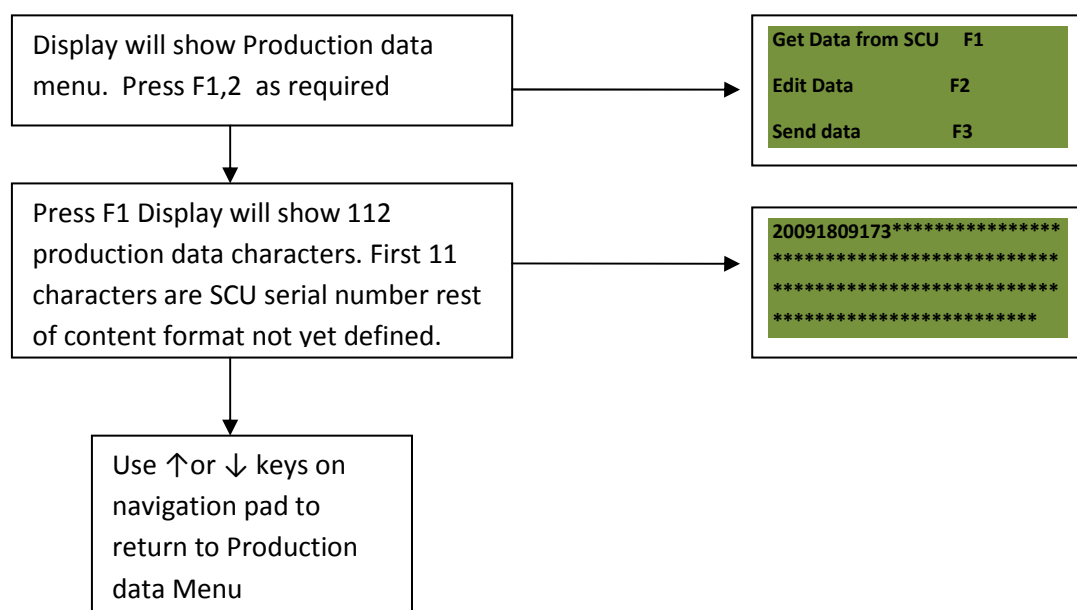
To exit power save mode and return to full display operation simply give the F1 button one short press..

Production data Mode

This mode allows the operator to read & Edit the production data that has been loaded during the manufacture of the SCU. This data is made up of 112 characters , the first 11 being the SCU Serial number.

The data edit function is provided so that the service engineer can load the correct SCU production data into an SCU if the main control circuit board has to be replaced.

View Production data





Edit Production Data

Display will show Production data menu. Press F1,2 as required

```
Get Data from SCU  F1
Edit Data          F2
Send data          F3
```

Press F2 Display will show 112 production data characters. First 11 characters are SCU serial number rest of content format not yet defined. defined)

```
20091809173*****
*****
*****
*****
```

Use F4 & F5 keys on navigation pad to select data content & →← to move position

Send Production data

Press F3 Display will go blank for a couple of seconds then show data sent ok

```
Get Data from SCU  F1
Edit Data          F2
Send data          F3
```

Data sent to SCU ok

Use ↑ or ↓ keys on navigation pad to return to Production data Menu



Service Data Mode

This mode allows the service engineer to review and update the service data stored in the SCU.

Display will show Service data menu.
Press F1,2,,4 as required

Entering service data

Press F1 Display will show Service data. Entry menu

Today's date (SDIU fills this automatically)

Service engineer code (SDIU fills this automatically)

Service data 10 digits (Enter this data using F4,5&6)

Run time since manufacture.

Use ↑ or ↓ keys on navigation pad to return to Service data Menu

Press F3 to send service data
Then F1 or F2 to send or cancel

Bottom line of screen will show data send status

When Data sent ok

Use ↑ or ↓ keys on navigation pad to return to Service data Menu

Enter service data F1
Get data from SCU F2
Reset service indicator F4

02 Nov 09 @14.29
Service Engineer code

Run Time 0000000.3

Enter service data F1
Get data from SCU F2
Send data to SCU F3
Reset service indicator F4

Send new service data entry to SCU?
F1 send/F2 cancel

Send new service data entry to SCU?
Sending Data

Send new service data entry to SCU?
Data sent to SCU ok



Reading service data

Press F2 on Service data.

Display will show last service data entry

Today's date

Service engineer code

Service data 10 digits

Run time since manufacture.

Enter service data	F1
Get data from SCU	F2
Reset service indicator	F4

02 Nov 09 @14.29
Service Engineer code
#####
Run Time 0000000.3

Use →←keys

to scroll through data content move position

Use ↑or ↓ keys on navigation pad to return to Service data Menu



Reset Service Indicator

Press F4 on Service data.

Display will show ask you to confirm reset action

Press F1 to confirm

Display will then indicate if the Service indicator has been reset

Enter service data	F1
Get data from SCU	F2
Reset service indicator	F4

Confirm reset
Service indicator
F1 confirm/F2 Cancel

SCU Service
indicator reset ok

Use ↑ or ↓ keys on navigation pad to return to Service data Menu

Repair Mode

Display will show

Status of push buttons of front panel

0= off *=on. This can be used to test each button.

Order of indicators is

GO,-,+,Mode, Mute

Press each button in turn to test

Display will then indicate if the Service

Button Status	0000
Air con Fitted	
I3 mattress fitted	
Back rest position	



Display will show if the mattress is
connected and the type of mattress

Virtuoso, Virtuoso 2 or Precioso

Display will show the backrest
position lowered or raised

Button Status 0000
Air con Fitted
I3 mattress fitted
Back rest position

Use ↓ to move onto the next screen
or ↑ or key on navigation pad to
return to Repair Mode top level.

Compressor off F1
Rotary Valve ? Degrees <E>
Buzzer test F3
Led Test 1 off F4,5,6

Display will show

Compressor on or off use F1 to switch state

Rotary valve position

Use V key on navigation pad to select & Use
→←keys

scroll through positions

Display will show Led test .

Select the number of the LED to be tested using F4 & F5

Use F6 to turn LED off/on

LED numbers are: Pressure adjust indicator 1-5, mode 6, static
7,Evaluation 8,Battery 9,Backrest 10,Seat 11,Service 12,CPR 13,Fault 14

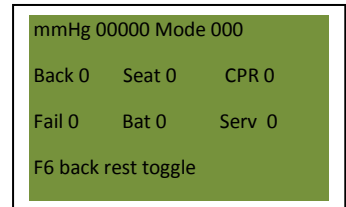
Display Mode

The first Display mode screen will show the status of all indicators on the SCU front panel

Mode = Alternating ,Static,Evaluation

F6 can be used to toggle the backrest indicator on/off.

Use →← keys to change F6 option to



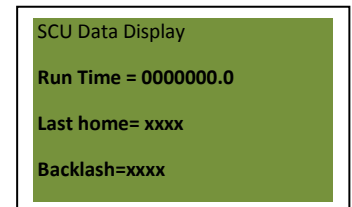
Use ↑ or ↓ keys on navigation pad to return to Display mode top level Menu or move down to next level

The second Display mode screen will show the performance of the rotor valve

Run time = operating hours since manufacture

Last home = number of steps since home position was last passed.

Back lash= number of steps lost when rotor moves backwards



Use ↑ or ↓ keys on navigation pad to return to Display mode top level Menu or move down to next level



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Mattress Test Mode

Display will give the option to display
or record mattress pressure readings

Select F2

Display readings F2
Record readings F3

Display Readings

Display will show current mattress
pressure readings in mmHG

Press F1 to end test & return to first
menu screen

Pressure Reading
A=00.00 B=00.00
C=00.00 S=00.00
F1 to end test

Record readings

Display will give the option to display
or record mattress pressure readings

Select F3

Display readings F2
Record readings F3

Display will give option to set
recording time using F4/5

Press V to start test

Record Reading
Set time to record
3 mins

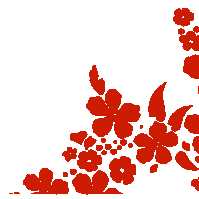
Display will show pressure readings
and time left to run test

At end of test display will show test
complete

Press F1 to exit test & return to
Mattress test top level menu

Pressure Reading
A=00.00 B=00.00
C=00.00 S=00.00
Time to go =15 mins

Pressure Reading
A=00.00 B=00.00
C=00.00 S=00.00
Test Complete press F1



Fault Log Mode

Display will show fault log entries

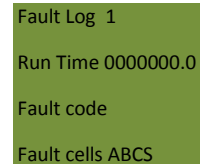
Entry number

Run time when fault occurred

Fault Code

If applicable which cell(s) caused the fault

Use →←keys to scroll through log entries



Fault Log 1
Run Time 0000000.0
Fault code
Fault cells ABCS

Use ↑or ↓ keys on navigation pad to return to Fault log top level Menu

SDIU set up Mode

This is the only mode that will be available if the SDIU is not linked to an SCU.

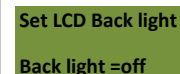
This mode is used to set the service engineers code & SDIU time & date .

Display will show Back light setting

Use F4/F5 to set level from range :

Off,1-20,Full (note use minimum level necessary to save battery power)

Use ↓ keys on navigation pad to to move onto next screen



Set LCD Back light
Back light =off



Display will show time & date menu

Use ↑↓→←keys on navigation pad to select digit to change.

Use F4/F5 to change digit (note after replacing battery change year using F5 to 2099 then F4 to select 2009)

Set LCD Back light

Set SDIU Time & Date

12:54:43

Sun 1 Jan 0000

Use ↓ keys on navigation pad to move onto next screen

Press V to Select first service engineer code digit. Use F4/F5 to change value

Set LCD Back light

Set service engineer

#####

Use ↓ keys on navigation pad to move onto next screen

Press V to select language field

Use F4/F5 to language type

Press V to confirm selection

Set LCD Back light

Current Language

English

Use ↑or ↓ keys on navigation pad to return to Fault log top level Menu

Battery Mode

Not yet available



Data Exchange with a PC

Not yet available

Turning off the SDIU

To Turn off your SDIU simply return to the Link Menu ,press F2 then Press and hold the F1 button for 3 seconds . There will be a short single audio tone and the mains display and green power Led will go off.

Do not leave the SDIU in Power save mode when not in use as this will greatly reduce the life of the internal batteries.

Batteries

The SDIU is power by two type AA 1.5 v Alkaline batteries. Depending on the length of time the SDIU is turned on for ,should provide at least twelve months of average daily usage. It is not recommended to use rechargeable batteries as they will changing more often and the SDIU set up data will need to be reset each time the batteries are changed.

The Batteries are accessed via the battery compartment cover on the rear of the SDIU , there is no need to open the main SDIU case.

It is recommended that Batteries should be inspected once a year to ensure that no leakage or corrosion has occurred. If there any signs or this occurring both batteries should be replaced immediately after cleaning the battery terminals.

Alkaline batteries should be disposed of in accordance with your local environmental waste policies & procedures

SDIU maintenance & Technical support

General Maintenance

Software updates

Technical support